

THE FLORA AND FAUNA OF NUYTS ARCHIPELAGO AND THE  
INVESTIGATOR GROUP.

No. 15.—THE PEARSON ISLAND RAT AND THE  
FLINDERS ISLAND WALLABY.

By F. WOOD JONES, D.Sc., F.Z.S.,  
Professor of Anatomy in the University of Adelaide.

[Read April 10, 1924.]

Since the other papers of this series (Nos. 2 and 6) that deal with Mammals were written, two further mammalian forms have been added to the list of the island fauna. In both cases these animals belong to new species confined, so far as is known, to the islands upon which they were obtained.

The Pearson Island Rat.

In contribution No. 2, on the Monodelphian Mammals (vol. xlvii., 1922, p. 191), it was noted that "Pearson Island is probably the home of two Murines, and it is hoped that these species may one day be made known to science." It was suggested that two species were present because during a visit to the island on February 16, 1922, the present writer saw a rat, which appeared to be dark, almost bluish, in colour, between two granite boulders on Middle Island, and another member of the party reported having seen a light fawn-coloured rat on the open slope of North Island. As a result of fairly extensive trapping on the group during the longer visit of 1923, I have now no doubt that there is only one species of rat present, and the different impressions of the animal conveyed to two observers were due to different circumstances under which the brief view of the specimens was obtained. As a matter of fact, neither description is correct; the rat is not dark and bluish, as it appeared in the deep shade, nor is it pale and fawn coloured, as it appeared in the brilliant sunlight. Specimens captured during the 1923 visit were sent to Mr. Oldfield Thomas, at the British Museum, and by him they were described and named, in compliment to Sir George Murray, *Rattus murrayi*. The original description of the type specimen (Ann. and Mag. Nat. Hist., Ser. 9, vol. xi., p. 601, May, 1923) is as follows:—

*Rattus murrayi*.

"Most nearly allied to *R. greyi* of the mainland. Size about as in that animal. Fur fine and soft. General colour greyish washed with buffy-brown, the grey showing through the brown more than in *R. greyi*, and the general tone consequently paler. Under surface drabby-grey, the hairs broadly slaty at base, their tips drabby-whitish; line of demarcation scarcely marked. Hands and feet white, with a certain darkening on the metopodials and digits which is not present in *R. greyi*. Tail rather shorter than in *R. greyi*, but imperfect or diseased in most of the specimens, this being, perhaps, due to severe competition in a small island.

"Skull essentially similar to that of *R. greyi*, with similarly reduced supra-orbital ridges; but the palatal foramina are more widely open and the bullae are rather larger, the latter a character one would not expect to find in an island animal. Molars conspicuously smaller than in *R. greyi*, and, indeed, far smaller

in proportion to the skull than in the great majority of the species of *Rattus*. Dimensions of the type (measured on the spirit-specimen before skinning):—Head and body, 134 mm.; tail, 116; hind foot, 28; ear, 19. Skull: greatest length, 36.4; condylo-incisive length, 34; nasals, 14.6; interorbital breadth, 5; breadth of brain case, 15.2; palatal foramina, 7.5x3; length of bullae, 6.7; upper molar series, 5.1.

“This distinct species is readily recognizable by its pale colour, shortened tail, large bullae, and, most of all, by its unusually small teeth.”

This little rat lives almost everywhere upon the three partially detached portions of the main island. Upon the South Island the whole of the travertine plateau is traversed by runaways which lead, radiating fashion, from central burrows which usually open into a large ramifying excavation beneath a slab of travertine. The runs are well beaten down, and traps set in them never failed to catch. Upon the open travertine plateau the rats seem mainly to feed upon the *Mesembryanthemum*, and none of their hollows beneath the travertine pavement contained any store of food.

On the Middle Island, and again on the larger North Island, the bulk of the rat population is centred on the travertine plateaux; but large communities also live among the great granite boulders. Wherever they shelter during the day time, the limestone flats, covered with pig-face and low saltbush, seem to provide their nocturnal playground and their source of food. In the one spot, on the southern and eastern side of Middle Island, where there is a sandy beach, the rats also come down to the sea shore every night to forage over the sand above the tide mark. Although, in the deep shade of the spaces between the great granite boulders, it is usually possible to see a specimen or two in the day time, the rats are distinctly crepuscular and nocturnal creatures, and as soon as dusk comes the travertine plateaux become alive with them. An evening rat hunt provided a never-failing source of amusement for the party camped on the island in 1923.

The animal proved to be ridiculously easy to trap, and in this it showed a very marked contrast to *Leporillus jonesi*, on Franklin Island. Cage traps set about the camp could be emptied and reset several times during the evening, and almost any bait—oatmeal, cheese, bacon, or bread—seemed to attract the rats. Those brought back alive lived well in captivity and proved to be very gentle and contented little animals; but, unfortunately, they did not breed. As in the case of some other animals observed in the islands, the males seem to vastly outnumber the females, and a very large proportion of the rat population shows varying degrees of mutilation of the tail. The general appearance of *R. murrayi* is very characteristic; its small size, fluffy coat, and small white hands and feet make it an attractive little animal. It is also remarkably gentle, and fresh-caught animals can be handled, if they are not unduly alarmed or roughly grasped, without fear of their biting. They thrive on any vegetable diet, but seem to be short lived, none of them remaining alive a year after capture and all of them showing well-marked signs of old age before they died.

#### The Flinders Island Wallaby.

In contribution No. 6, on the Didelphian Mammals (vol. xlvii., 1923, p. 92), it was recorded that the wallaby, which Flinders had seen on this island, and which was generally supposed to have become extinct, was, in fact, still living in small numbers upon the northern point of the island. During our stay on the island, in January, 1924, several specimens were seen and a male was shot and a female snared. The wallaby is one of the *Dama* group of the section *Thylogale*, and its cranial and external characters are sufficiently distinct from

those of other described members of the group to warrant its description as a new insular species. The animal is accordingly described here.

***Thylogale flindersi*, n. sp.**

The description of the type, male, specimen is as follows:—

This is a gracefully-built wallaby of a general grizzled silver-grey colour.

It differs from the Kangaroo Island wallaby in being more finely built and considerably less sturdy. The head is small in proportion to the body, and the whole animal elegant compared with the thick-set wallaby of Kangaroo Island. The coat has a texture altogether different, in that it is fine, rather short and sleek, and lacks the woolly or fluffy appearance typical of *T. eugenii*.

In general colour it is markedly grizzled light grey, becoming strongly rufous over the shoulders in the male. The hairs of the mid-dorsal region measure 20 mm., and the long, entirely black, hairs which are so conspicuous in *T. eugenii* are absent. The individual hairs are banded with white instead of buff, and the majority of them lack the dark tip.

The face is grey, with a well-marked pale area extending along the upper lip to beneath the eye. Dorsal surface of the body, pepper-and-salt grey. Sides and back of neck and shoulders rather bright rufous in the male, tawny in the female. Upon the occiput there starts a dark mid-dorsal stripe; this stripe is very pronounced in the male and may be traced to the lower dorsal region. Chin and throat greyish-white; but the lower part of the neck, chest, and abdomen coloured almost as the dorsal surface, save that the pepper-and-salt mixture is somewhat lighter. Limbs pale fawn. Tail pale grey.

In the living animal the ears are pinkish-yellow within and but little hairy; without, they are clothed by dark-grey hairs. Vibrissae, etc., as in *T. eugenii*.

The skull is lightly built and is at once distinguished from that of *T. eugenii* by the narrow nasal bones, the outer margins of which are straight, or nearly so, in contrast to the sinuous outer margins of these bones in *T. eugenii*. The average breadth of the nasal bones is 13.7 mm. in *T. flindersi* as opposed to 19 mm. in the Kangaroo Island wallaby. The constriction of the interorbital region is also considerably narrower than that typical of the latter animal. In *T. flindersi* the average minimum breadth of the interorbital constriction is 14.2 mm. as opposed to 17.1 mm. in the other species. In the form of the nasal bones *T. flindersi* resembles *T. billardieri*.

Dimensions.	Type of Species: Male.			Female.
Head and body	..	..	..	570
Tail	..	..	..	410
Hind foot	..	..	..	132
Ear	..	..	..	47
				50

DIMENSIONS OF SKULL.

	Male.	S.A.				S.A.			
	Adult.	Mus.	Adult.	Adult.	Adult.	Mus.	Adult.	Mus.	Adult.
	Type:	No. 1751				No. 1750		No. 1749	
Basal length	.. 95	92	88	87	85	85	84	84	79
Breadth	.. 53	49	49	49	49	49	—	46	47
Nasals, length	.. 38	36	34	34	34	32	—	34	33
Nasals, breadth	.. 16	16	12	14	13	12	—	14	13
Interorbital breadth	.. 14	14	13	14	14	15	14	15	15
Palate length	.. 59	51	53	54	51	50	50	50	49
Diastema	.. 20	19	17	19	19	19	17	17	19
M1-M3	.. 18	17	18	16	18	16	18	15	15

For the purposes of comparison the following tables give measurements of skulls of *T. eugenii* from Kangaroo Island and from the mainland of South Australia:—

## KANGAROO ISLAND SPECIMENS.

	Average of 50 male skulls.			Average of 40 female skulls.		
Basal length .. .. .	98.8	..	94.8			
Breadth .. .. .	54.5	..	52.8			
Nasals, length .. .. .	38.7	..	36.4			
Nasals, breadth .. .. .	19.2	..	18.9			
Palate length .. .. .	59.8	..	57.3			
Interorbital constriction .. .. .	17.1	..	17.1			
Diastema .. .. .	22.2	..	20.7			
M1-M3 .. .. .	19	..	19			

## MAINLAND SPECIMENS: SOUTH AUSTRALIAN MUSEUM SKULLS.

	Pt. Linc'ln Tickera		Pt. Linc'ln Pt. Linc'ln	
	No. 1748	No. 1755	No. 1740	Male. No. 1746
Basal length .. .. .	92	88	84	82
Breadth .. .. .	50	50	48	50
Nasals, length .. .. .	35	35	35	30
Nasals, breadth .. .. .	18	16	16	16
Palate length .. .. .	54	51	55	55
Interorbital constriction .. .. .	16	16	14.5	17.5
Diastema .. .. .	23	17	20	22
M1-M3 .. .. .	17	17	17	15

Flinders observed this animal in 1802, and he states that on the island "a small species of kangaroo, not bigger than a cat, was rather numerous. I shot five of them, and some others were killed by the botanists and their attendants and found to be in tolerably good condition." Even comparatively recently the animal was very numerous, and it has been reported that as many as thirty thousand were at one time killed on the island. In 1910 a destructive bush fire swept the portion of the island occupied by wallabies, and when I visited the place in 1920 no trace of them was to be found, and the tenant of the island believed them to be extinct. In 1922 I again visited the island and found obvious evidence of their presence, but no actual specimen was seen.

During the time spent in camp on the island, in 1924, the study and collection of this wallaby were the principal objects to which I devoted attention. The tracks were again found in the same restricted area, and on the first visit to the spot one was heard to thump in the dense ti-tree which covers this, the northern, corner of the island. Owing to the thick growth of ti-tree it was extremely difficult to observe the animals or to shoot them, and without previous preparation, the site was not an easy one in which to snare. Only three animals were actually seen by the writer, and one, a male, was shot and a female snarcd. The animal is obviously more agile and quicker in its movements than the examples of *T. eugenii*, living on Kangaroo Island, and it appears to be a more elegant creature when moving about.

The present small colony of wallabies occupies only a very restricted area upon which the native bush has not been destroyed by various attempts at cultivation. Although it probably contains a hundred or so individuals, its hold on life cannot be considered a very secure one. The animals are always at the mercy of bush fires, having no line of retreat, since they live on a corner of the

island that is girt by high and inaccessible cliffs. Moreover, they have to contend against two introduced animals, the feral domestic cat, which has overrun the island, and the rabbit. They may at any time, though fortunately this does not seem to be at present the case, have to contend against human enemies. In January, 1924, the young were entirely independent of their mothers. On account of its build being rather more elegant than that of the thick-set Kangaroo Island wallaby, it was at one time a favourite with people who cared to have wallabies running in their grounds, but at present I believe there are no descendants of these animals living on the mainland. It has also been an inhabitant of the Zoological Gardens in Adelaide, but no specimens have been exhibited there for many years.

As mentioned in the previous paper (No. 6), a former tenant of the island (Mr. May) has assured me that when the wallabies were numerous there were two distinct types living on the island, the one obviously that described as *Thylogale flindersi*, and the other a more rare, slender, yellow wallaby. What this second animal was it is impossible to guess; there seem to be no traces of it left.

---